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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,394	02/24/2000	Kyou-Yoon Sheem	3364.P039	5787

7590 09/12/2005

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EXAMINER

MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	Application No.	Applicant(s)	
	09/512,394	SHEEM ET AL.	
	Examiner	Art Unit	
	Julian Mercado	1745	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 19 August 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ They raise the issue of new matter (see NOTE below);
- (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: 1,3-6 and 8-10.

Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attached.

12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____

13. ☐ Other: _____.

Advisory Action

This Advisory action is responsive to applicant's amendment filed August 19, 2005.

The proposed amendment will be entered upon filing of a Notice of Appeal and an Appeal Brief.

The rejection of claims 1, 3-6 and 8-10 under 35 U.S.C. 112, first paragraph for lack of enablement for a semi-crystalline structure for metal components other than boron is maintained. Applicant's arguments have been fully considered, however they are not found persuasive for the following reasons.

Applicant's citation of three references is noted. (1) Adsorption and Oxidation of K deposited on graphite, (2) Synthesis and crystal Structure of Al_3BC , the first boride carbide of aluminum, and (3) Density-functional based tight-binding calculations on zinc-blender type BC_2N -cystals). These references appear to be cited as evidence documents in response to the scope of enablement rejection. The examiner notes that applicant's submission of these documents is not considered timely because there is showing of good and sufficient reasons why the references were not earlier presented, i.e. submitted in reply to the September 21, 2004 Office action, which was Non-Final with respect to the outstanding scope of enablement rejection. Notwithstanding, in reviewing applicant's remarks (pg. 4), it appears to the examiner that these references are submitted in support of applicant's assertions that the terms "twisting" and "expanding" would be known by an ordinary person skilled in the art. But the issue under 35 U.S.C. 112, first paragraph is whether or not a semi crystalline structure for metal components other than boron is enabled. The relevance of the references is also unclear.

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Potassium, K, is said to intercalate through graphite layers to expand the interlayer distance, but the first reference appears to be silent on its effects on a semi crystalline structure. Regarding the second reference, aluminum is said to twist the structure of carbon and B but the reference is also silent in this respect. Cited Figure 2 appears to merely show the crystal structure of Al_3BC . The third reference is said to teach several structures of graphite-like BC_2N that are twisting structures, but again, do such twisting structures pertain to the claimed semi crystalline structure?

The examiner notes that these cited references total approximately 44 pages. Applicant is requested to provide specific page and line numbering citations to these documents in a manner not unlike the Office actions of record for further citations – to do so would allow the examiner to better understand applicant's reasoning.

The rejection of claims 1, 3-6 and 8-10 under 35 U.S.C. 112, first paragraph for failing to comply with the written description requirement has been withdrawn. The issue under 35 U.S.C. 112, first paragraph is whether or not Figure 3 shows a semi crystalline intermediate structure that exists between crystalline and amorphous forms. The examiner acquiesces with applicant's assertion that since there is no peak at less than $700^\circ C$, the carbon shell has a semi crystalline structure. It appears to the examiner that this argument is premised on there being no peak indicating amorphous carbon, and that therefore, the claimed semi crystalline carbon does not have amorphous forms.

The rejection of claims 1, 3-6 and 8-10 under 35 U.S.C. 112, second paragraph has been obviated by applicant's amendment.

Applicant's arguments against the 35 U.S.C. 103(a) rejection based on Ueda et al. in view of either Yamada et al., Peled et al. and further in view of Mao et al. have been fully

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considered. However, these arguments are believed cumulative to those already of record. Thus, the rejection based on these references are maintained for the reasons of record.

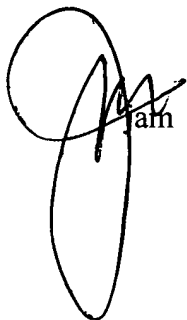
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to be 'Julian', with a large, loopy initial 'J'.A handwritten signature in black ink, appearing to be 'Patrick Joseph Ryan', with a stylized 'P' and 'R'.

PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER